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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/821,184

04/09/2004

Rinze Benedictus

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WASHINGTON, DC 20036

EXAMINER

MORILLO, JANELLE COMBS

ART UNIT

PAPER NUMBER

1793

MAIL DATE

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02/21/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/821,184	<b>Applicant(s)</b> BENEDICTUS ET AL.	
	<b>Examiner</b> Janelle Combs-Morillo	<b>Art Unit</b> 1793	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 26 November 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10, 13-25, 28-68, 98, 99 and 101-127 is/are pending in the application.
- 4a) Of the above claim(s) 101-124 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13-25, 28-68, 98, 99 and 125-127 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                       | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>010808, 010408</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chakrabarti et al (US 2002/0121319 A1).

Chakrabarti et al teaches aerospace structural components (including wing units see abstract, Fig. 1) such as plate, extrusion, or forging with high strength and fracture toughness and superior SCC resistance [0016] made from Al-Zn-Cu-Mg alloys (abstract). Chakrabarti et al teaches said alloy comprises (in wt%): 6-10% Zn, 1.2-1.9% Mg, 1.2-2.2% Cu, and one or more of: up to 0.4% Zr, up to 0.4% Sc, and up to 0.3% Hf (see [0023]), up to 0.1% Cr, up to 0.3% Mn [0027], which significantly overlaps the presently claimed alloying ranges (cl. 1, 5-10, 13-16, 18, 19, 23, 24, 28, 41, 45-52, 125-127) of Cu, Zn, Si, Fe, Zr, and Ti (see table 2 and footnote, see at least Ex. 6 etc.), and is a close approximation of the presently claimed alloying minimum of Mg of 1.92%. Because Chakrabarti teaches a broadly overlapping alloy composition, it is held that Chakrabarti has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," *In re Peterson*, 65 USPQ2d at 1379 (CAFC 2003).

A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties. *Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.).

The Mg & Cu equation in instant claims 2-4, 42-44, 70-72, the ranges of Mg and Cu taught by Chakrabarti overlap said relationship (see above).

Concerning claims 5-10, 13-16, 18, 19, 23, 24, 28, the alloying ranges taught by Chakrabarti meet the instant limitations (see above).

Chakrabarti teaches a Mn content of  $<0.2\%$  and Cr of  $\leq 0.1\%$  [0027], which overlaps the presently claimed ranges (cl. 15-25, 50-52). Chakrabarti teaches up to 1.9% Mg, which is a close approximation of 1.92% Mg (cl. 27), and touches the boundary of the Mg in instant claims 26, 69. The alloying ranges of Chakrabarti overlap those in instant claims 41, 45-52.

Concerning property claims 62-68, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

Additionally, Chakrabarti teaches an EXCO ration of EB or better (therefore EB, EA, or pitting only), see [0123].

Concerning claims 53-61, 64, 99, Chakrabarti teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component selected from a stringer, wing skin, or upper wing member (cl. 158, 199). Concerning the thickness of said product, Chakrabarti teaches a typical thickness of >2inches (Chakrabarti at cl. 3), or a thin plate member <2 inches thick (Chakrabarti at cl. 11).

Concerning property claims 29, 30, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present. Additionally, Chakrabarti teaches an EXCO ration of EB or better (therefore EB, EA, or pitting only), see [0123].

Concerning claims 31-40 and 98, Chakrabarti teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component selected from a stringer, wing skin, or upper wing member (cl. 158, 199). Concerning the thickness of said product, Chakrabarti teaches a typical thickness of >2inches (Chakrabarti at cl. 3), or a thin plate member <2 inches thick (Chakrabarti at cl. 11).

3. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flidlyander et al (US 6,726,878).

Flidlyander teaches aerospace structural components such as plate, extrusion, or forging (column 1 lines 9-16) with high strength and fracture toughness (column 3 lines 4-9) made from Al-Zn-Cu-Mg alloys (abstract). Flidlyander et al teaches said alloy comprises (in wt%): 6.35-

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8.0% Zn, 0.5-2.5% Mg, 0.8-1.3% Cu, 0.07-0.2% Zr, 0.01-0.2% Si, 0.06-0.25% Fe, 0.001-0.05% Cr, 0.001-0.1% Mn (column 3 lines 15-20), which significantly overlaps the presently claimed alloying ranges (cl. 1-10, 13-25, 28, 41-52, 125-127) of Cu, Zn, Mg, Si, Fe, Zr, and Ti. Because Flidlyander teaches a broadly overlapping alloy composition, it is held that Flidlyander has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05. It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Additionally, "The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages," *In re Peterson*, 65 USPQ2d at 1379 (CAFC 2003).

The Mg & Cu equation in instant claims 2-4, 42-44, 70-72, the ranges of Mg and Cu taught by Flidlyander overlap said relationship (see above).

Concerning property claims 62-68, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

Concerning claims 31-40, 53-61, 64, 98, 99, Flidlyander teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component for aircraft, and can be formed into practically any shape and dimension (column 4 lines 51-53), such as 60 mm (2.36 in), 100 mm (3.94 in). Because Flidlyander teaches said alloy is formable into a vast variety of

structural shapes and sizes, it is held to be within the disclosure of Flidlyander to form said alloy into a thin plate product for various aerospace parts such as wing plate, etc, <1.0inch, 2-6 in, etc.

Concerning property claims 29, 30, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

4. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahani et al (US 6,027,582).

Shahani teaches aerospace structural components such as plate, extrusion, or forging (abstract) with high strength and fracture toughness (abstract, examples) made from Al-Zn-Cu-Mg alloys which significantly overlaps the presently claimed alloying ranges (cl. 1-10, 13-25, 28, 41-52, 125-127) of Cu, Zn, Mg, Si, Fe, Zr, and Ti. Because Shahani teaches a broadly overlapping alloy composition, it is held that Flidlyander has created a prima facie case of obviousness of the presently claimed invention.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05.

The Mg & Cu equation in instant claims 2-4, 42-44, 70-72, the ranges of Mg and Cu taught by Shahani overlap said relationship (see above).

Concerning property claims 62-68, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

Concerning claims 31-40, 53-61, 64, 98, 99, Shahani teaches said alloy is formed by extrusion or forging (abstract) and formed into a structural component for aircraft, in particular

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wing spars >60 mm thick (>2.36 in). Though Shahani does not specify forming thin sheet, it is held to be a result effective variable to further reduce the sheet taught by Shahani to a given thickness, wherein the predictable result of further reducing is a thin sheet product.

Concerning property claims 29, 30, if the prior art teaches the identical chemical structure (and as processed in substantially identical working and heat treatment tempers as in the instant specification), the properties applicant discloses and/or claims are expected to be present.

### ***Double Patenting***

5. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

6. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 31 of copending Application No. 11/239651. Although the conflicting claims are not identical, they



are not patentably distinct from each other because said claim of US'651 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

7. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 24-27 of copending Application No. 10/976154. Although the conflicting claims are not identical, they are not patentably distinct from each other because said claims of US'154 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

8. Claims 1-10, 13-25, 28-68, 98, 99, 125-127 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1-24, 36-38 of copending Application No. 10/819130. Although the conflicting claims are not identical, they are not patentably distinct from each other because said claims of US'130 teaches an overlapping Al-Zn-Cu-Mg alloy product.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

#### ***Response to Amendment/Arguments***

9. In the response filed on November 26, 2007 applicant amended various claims and submitted arguments traversing the rejections of record. The examiner agrees that no new matter has been added.

10. The examiner agrees applicant has overcome the 102(b) type rejections in view of Chakrabarti, as well as the 103(a) rejections in view of Fridlyander. However, the examiner the 103(a) rejections in view of Chakrabarti have been maintained for reasons a), b), c) set forth below.

11. Concerning reason a), Applicant's argument that the present invention is allowable over the prior art of record because the alloying range of Mg taught by Chakrabarti does not overlap that of the claimed invention has not been found persuasive. As stated above, A prima facie case of obviousness exists where the claimed ranges and prior art ranges do not overlap but are close enough that one skilled in the art would have expected them to have the same properties.

*Titanium Metals Corp. of America v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985) (Court held as proper a rejection of a claim directed to an alloy of "having 0.8% nickel, 0.3% molybdenum, up to 0.1% iron, balance titanium" as obvious over a reference disclosing alloys of 0.75% nickel, 0.25% molybdenum, balance titanium and 0.94% nickel, 0.31% molybdenum, balance titanium.). The amount of Mg taught by Chakrabarti of 1.9% held to be a close approximation of the claimed 1.92% Mg, and one skilled in the art would have expected them to have the same properties.

12. Concerning reason b) Applicant's argument that the present invention is allowable over the prior art of record because applicant's alloy has experienced commercial success has not been found persuasive. The arguments of counsel cannot take the place of evidence in the record. *In re Schulze*, 346 F.2d 600, 602, 145 USPQ 716, 718 (CCPA 1965); *In re Geisler*, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997) ("An assertion of what seems to follow from common

experience is just attorney argument and not the kind of factual evidence that is required to rebut a prima facie case of obviousness." See MPEP § 2145. Objective evidence which must be factually supported by an appropriate affidavit or declaration to be of probative value includes evidence of unexpected results, commercial success, solution of a long-felt need, inoperability of the prior art, invention before the date of the reference, and allegations that the author(s) of the prior art derived the disclosed subject matter from the applicant. See MPEP 716.01 c, g. See, for example, *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984). See also *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972); *Ex parte George*, 21 USPQ2d 1058 (Bd. Pat. App. & Inter. 1991).

13. Concerning reason c), Applicant's argument that the present invention is allowable over the prior art of record because applicant has shown unexpected results with respect to a composition that falls within the compositional ranges disclosed by Chakrabarti has not been found persuasive. Evidence of unexpected properties may be in the form of a direct or indirect comparison of the claimed invention with the closest prior art which is commensurate in scope with the claims. See *In re Boesch*, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) and MPEP §716.02(d) - § 716.02(e). An affidavit or declaration under 37 CFR 1.132 must compare the claimed subject matter with the closest prior art to be effective to rebut a prima facie case of obviousness. *In re Burckel*, 592 F.2d 1175, 201 USPQ 67 (CCPA 1979), see also MPEP 716.02(e). "A comparison of the claimed invention with the disclosure of each cited reference to determine the number of claim limitations in common with each reference, bearing in mind the relative importance of particular limitations, will usually yield the closest single prior art reference." *In re Merchant*, 575 F.2d 865, 868, 197 USPQ 785, 787 (CCPA 1978) (emphasis in

original). Where the comparison is not identical with the reference disclosure, deviations therefrom should be explained, In re Finley, 174 F.2d 130, 81 USPQ 383 (CCPA 1949), and if not explained should be noted and evaluated, and if significant, explanation should be required. In re Armstrong, 280 F.2d 132, 126 USPQ 281 (CCPA 1960). Applicant has not provided a clear nexus between the comparative results and the closest prior art of Chakrabarti.

### ***Conclusion***

14. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.


Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Roy King/  
Supervisory Patent Examiner, Art Unit  
1742

/J. M./

Examiner, Art Unit 1793

February 6, 2008

<div><b>Application Number</b></div> <div></div>	<b>Application/Control No.</b>	<b>Applicant(s)/Patent under Reexamination</b>	
	10/821,184	BENEDICTUS ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Janelle Combs-Morillo	1793	